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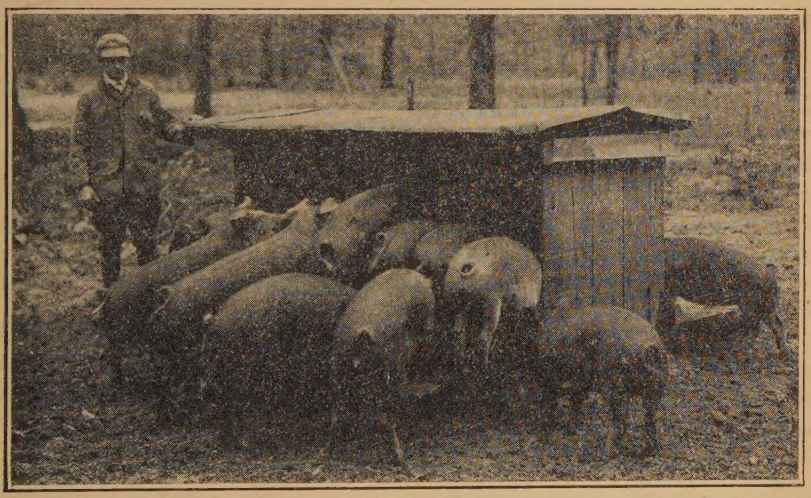
November, 1930 Extension Circular No. 181

MARKET HOG AND TON LITTER PROJECTS

FOR

4-H CLUB MEMBERS



STARTING A LITTER PROPERLY

NORTH CAROLINA STATE COLLEGE OF AGRICULTURE AND ENGINEERING
AND
U. S. DEPARTMENT OF AGRICULTURE, CO-OPERATING
N. C. AGRICULTURAL EXTENSION SERVICE
I. O. SCHAUB, *Director*
STATE COLLEGE STATION
RALEIGH, N. C.

DISTRIBUTED IN FURTHERANCE OF THE ACTS OF CONGRESS OF MAY 8, AND JUNE 30, 1914

PREFACE

The boy or girl interested in pig club work will find the "Market Hog and Ton Litter Project" interesting and profitable when instructions are carried out. This project was designed for the wide-awake club member who is interested in hog work from a financial standpoint. Careful consideration has been given to all phases of swine feeding and every effort has been made to make this a practical and profitable project. However, final results will be determined by the club member. To make a success of this project will require the best efforts of the club member from the day the pigs are weighed until the day they are sold.

In conducting this project the club member should learn how to select good pigs, how to feed, the kind of feed to use, the construction of self-feeder, something about the management of growing pigs, the value of systematic records, and the profitable marketing of hogs and possibly something about showmanship. This project may be conducted either as a ton litter or a barrow project. When conducted as a barrow project the club member will be required to feed a minimum of five pigs. The system of records for the two projects will be the same.

Twenty club members feeding a minimum of five pigs will produce one car load of hogs. This will make it possible for a community or a county to make a coöperative car-lot shipment to a desirable market, thereby assuring a better price for the hogs.

The success of this project will be determined largely by the kind of pigs fed, the amount of corn available, the management and system of feeding, the system of records, and the market price. The first four of these can be controlled by the feeder, and by proper management the hogs can be marketed when the price for hogs is high. This project will challenge the club member's best efforts and attention, and in return will pay dividends in proportion to the manner in which it is carried out.

L. R. HARRILL,
State Club Leader.

MARKET HOG AND TON LITTER PROJECTS FOR 4-H CLUB MEMBERS

By W. W. SHAY, *Swine Extension Specialist*

INTRODUCTION

When proper methods of feeding, sanitation and housing are practiced the *cost* of producing pork is governed by the yield of corn per acre on the farm where the feeding is done. The *profit* derived from the feeding of hogs on a commercial scale is governed to a large extent by the quality of the product, the time of the year when it is sold, and the rapidity with which the hogs gain in weight.

There is much confusion and a lack of understanding regarding these matters, and it is possible for the 4-H Club members to clear up at least some of these questions by keeping careful records of the feed cost of producing market hogs. Until this is done in a thorough manner for a considerable length of time, our farmers will continue to sacrifice potential profits which run to amazing amounts each year.

In keeping records the main object is accuracy. Unless a record is accurate it does not show the truth, and is, therefore, misleading in proportion to the extent of its variance from actual results, and it is worse than no record at all.

It is a simple matter to feed hogs properly and keep accurate records if the instructions in this circular are followed.

SELF FEEDING

The production of pork on a commercial scale is a consistent business and, when conducted in a business-like manner, the self-feeders should be in use every day in the year.

Sows should be bred as nearly as possible on May 1, and November 1, and their pigs should have access to a self-feeder every day after they are four or five weeks old until they are sold.

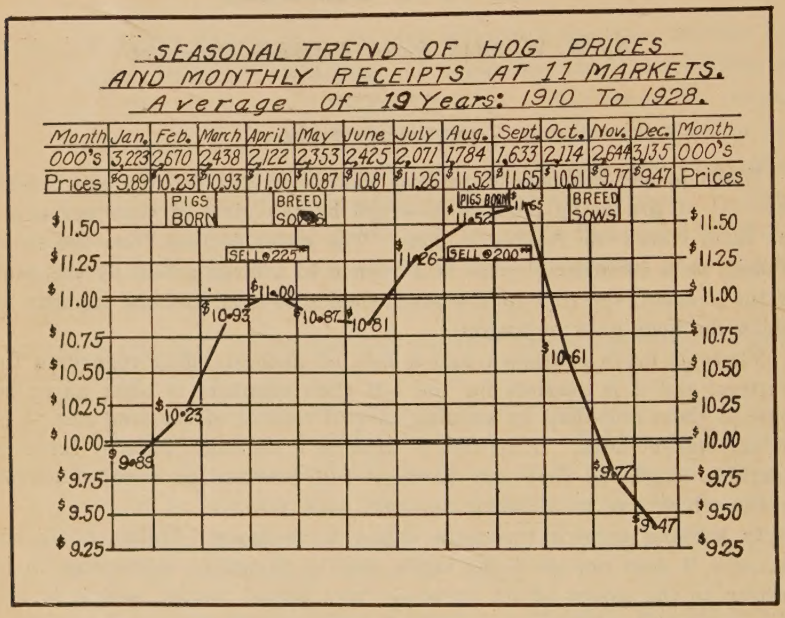
Some of the advantages of a self-feeder over hand feeding are discussed later in this circular.

When a self-feeder is used, it is a simple matter to keep a record of the feed put in it, and if the pigs were weighed after being weaned a check-up on the rate and cost of gain is possible at any time.

Where hand feeding is practiced, convenient forms for use in keeping and reporting records will be sent upon receipt of an entry blank properly filled out. When reports are sent to the Office of Swine Extension an analysis of the results will be sent to the one sending the report.

MARKET HOG PROJECT

Object: To teach not only the system of *proper* feeding and *seasonal* marketing of hogs which has been proven to be the most profitable in North Carolina, but also to teach *why* it is the most profitable.



KIND OF PIGS TO USE AND TIME TO START FEEDING

Pigs: Select good, thrifty pigs which were farrowed either between January 1 and March 1, or between August 1 and October 1.

Time of Starting: The pigs should be weighed as soon after they are weaned as possible, and their weight entered on blanks which will be provided for the purpose. They should be kept in a lot by themselves where water, pasture, shelter, shade and a mineral mixture are constantly accessible.

Feeding: The feeding may be done through a self-feeder in which case shelled corn, high grade wheat mill feed, and either fish meal or tankage, or a mixture consisting of equal parts of fish meal and cottonseed meal should be kept constantly in separate compartments until the pigs average about 75 pounds each in weight after which the wheat mill feed should be omitted.

If the pigs are to be fed by hand, the feed should be properly balanced in accordance with the weight of the pigs.

Remember this: Each slop mixture is compounded to balance an equal amount of corn by weight.

For *all* pigs weighing 50 pounds or less make up a slop mixture in accordance with *Slop Mixture Number 1*, allowing the amount shown

for each pig, and multiplying the amount of each ingredient shown by the number of pigs to be fed. If the pigs average over 45 pounds each, and less than 55 pounds, mix only half the amount shown for each pig. Amount of mixture for 7 pigs is shown below.

Date, April 27, 1930. Number of pigs, 7. Total weight, 280.

SLOP MIXTURE NUMBER 1

Showing amount for each pig weighing 50 pounds or less

Variety	*Parts*	*Lbs.*	*No. Pigs*	*Mixed*	*Price*
Fish meal or tankage?	(1)	10 x	7 =	70	$3.50
Corn meal	(1)	10 x	7 =	70	1.90
Wheat shorts or red dog?	(2)	20 x	7 =	140	2.00
Total Slop Mixture No. 1	(4)	40 x	7 =	280	$
Weighed and set aside corn	(4)	40 x	7 =	280	$ ear or shelled?

Multiply the amount of each ingredient shown by the number of pigs to be fed and enter the product or answer in the blank space under the heading "mixed". Example: If there are seven pigs to be fed, multiply the amount of fish meal shown in the mixture by 7 ($10 \times 7 = 70$), and proceed in the same way.

When this is done first it is a very simple matter to weigh and mix the feed properly.

Enter the amount of each ingredient of Slop Mixture Number 1 in the original entry blank under the heading "Feed Record," and mail promptly to the Office of Swine Extension, Raleigh, N. C.

Subsequent reports should be made on Form 8, which will be sent to all who take active part in the project.

The pigs should always be fed twice daily, and three times while they are small.

Now that the pigs are weighed and the feed weighed and ready for use, the next object is to get the pigs to eat it all as soon as possible. Allow about one-half pound dry weight of the slop mixture for each pig and stir in just enough water to make a *thick* slop. Then feed an equal amount of shelled corn, separate and dry. Do this both morning and night. Increase the amount gradually but constantly as the pigs gain in weight, allowing all they will clean up twice daily.

If the amount of corn which was weighed is used up first, weigh enough more to last until the slop mixture is exhausted, and enter the amount on the margin of the record.

When the slop mixture is exhausted, weigh the pigs and mix feed for the second period as follows:

Date_____1930. Number of pigs, 7. Total weight, 455 lbs.

SLOP MIXTURE NUMBER 2

Showing amount for each pig weighing 50-75 pounds

Variety	*Parts*	*Lbs.*	*No. Pigs*	*Mixed*	*Price*
Fish meal or tankage?	(1)	13 x	7 =	91	$3.50
Corn meal or *substitute?*	(3)	39 x	7 =	273	
Wheat mill feed	(1)	13 x	7 =	91	2.00
Slop Mixture No. 2	(5)	65 x	7 =	455	

If a substitute is used for the corn meal, describe it, giving amount and price per bushel: Ground wheat, 150 lbs., $1.00; Barley, ____ lbs., $____; Rye, 123 lbs., $0.80; Total, 273 lbs. Weighed and set aside corn, 570 lbs., ____bus., ear or shelled? $0.90.

Weigh any corn which remains from the first feeding period and subtract the amount from the total amount of corn weighed in, and report the amount actually eaten by the pigs, along with the last weight of the pigs, being sure that the date is also given.

If corn can be ground for a toll of one-eighth, use corn meal and mix a slop mixture in exactly the same manner as Number 1 was mixed but using the formula given in Slop Mixture Number 2.

Do not neglect to weigh and set aside an amount of corn equal to the total amount of slop mixture which, as will be seen, is greater this time.

Date____1930. Number of pigs, 7. Total weight, 720 lbs.

SLOP MIXTURE NUMBER 3

Showing amount for each pig weighing 75-125 pounds

Variety	*Parts*	*Lbs.*	*No. Pigs*	*Mixed*	*Price*
Fish meal or tankage?	(1)	14 x	7 =	98	$3.40
Corn meal or *substitute?*	(4)	56 x	7 =	392	
Wheat mill feed	(1)	14 x	7 =	98	1.75
Slop Mixture No. 3	(6)	84 x	7 =	588	

If a substitute is used for the corn meal, describe it giving amount, and price per bushel: Ground wheat____lbs. $____;

Barley, 192 lbs., $0.70; Rye, 200 lbs., $0.75; Total, 392 lbs.

Weighed and set aside corn 735 lbs.____ bus. *ear* or shelled? $0.90.

Make report promptly on Form 8 to the Office of Swine Extension.

Date____1930. Number of pigs, 7. Total weight, 1,085 lbs.

SLOP MIXTURE NUMBER 4

Showing amount for each pig weighing over 125 pounds

Variety	*Parts*	*Lbs.*	*No. Pigs*	*Mixed*	*Price*
Fish meal or tankage?	(1)	15 x	7 =	105	$3.45
Corn meal or substitute	(6)	90 x	7 =	630	
Slop Mixture No. 4	(7)	105 x	7 =	735	

If a substitute is used for the corn meal, describe it giving amount, and price per bushel: Ground wheat 210 lbs. $0.90; Barley 210 lbs. $0.70; Rye 210 lbs. $0.80; Total 630 lbs. Weighed and set aside corn 920 lbs. _____ bus. *ear* or shelled? $0.95.

The feed should be continued in these proportions until the hogs are sold when a complete financial report of the sale should be made.

This report should show (1) the date they were sold; (2) the live weight of the hogs on that date; (3) the total amount they sold for, whether alive or dressed; (4) the cost of selling which should include (a) transportation, including feed in transit, and yardage charges; (b) commission; (c) any other charges.

This report should also include a record of the feed eaten during the last period.

All reports should be made promptly, and the analysis which will be sent in return should be studied carefully. The knowledge thus gained will be worth many times more than any money profit which can possibly be made from the project.

AMOUNT OF FEED NECESSARY FOR EACH PIG AND TENTATIVE COST

Variety	*Pounds*		*Price*	*Cost*
Fish meal or tankage	52		$3.50	$1.82
Corn meal or substitute	195	(3.98 bu.)	.90	3.58
Wheat mill feed	50		1.75	.88
Total supplement	297		Av. $2.14	$6.28
Corn, separate, dry	297	(5.3 bu.)	$ .90	$4.77
Total feed and tentative cost	594		Av. $1.86	$11.05

APPROXIMATE GAIN

A good pig should gain about 165 pounds on that amount of properly balanced feed. Should it do so and sell for ten cents per pound on foot at the farm, the profit on the gain in weight at the cost shown would be $3.30 per 100 pounds or $5.44 profit per pig.

Each cent over ten cents per pound received for the pig would increase the profit per pig $1.65, and each cent less than ten cents per pound would decrease the profit per pig to the same extent, but the pig would have to sell for less than $6.70 per 100 pounds at the farm before the gain would be put on at a loss.

The profit, however, will be affected by the initial cost of the pig.

With the cost of supplemental feeds as shown, if the pig sold for ten cents per pound at the farm, the return for the 9.28 bushels of corn and corn meal would be $13.79, or $1.48 per bushel.

DO NOT CONTINUE TO PAY OVER $1.90 PER 100 POUNDS FOR CORN MEAL NOR OVER ONE-EIGHTH TOLL FOR GRINDING.

Always use corn meal in making Slop Mixture Number 1, but if corn meal costs more than $1.90 per 100 pounds when the price of corn is $0.90 per bushel, any of the small grains mentioned below may be coarsely

ground and substituted for the corn meal in slop mixtures only, at the prices shown. *Do not* substitute ground small grain for any of the fish meal, tankage or wheat mill feed.

Comparative cost of ground feed when ground for toll of one-eighth

	Bus.	*Wt.*	*Price*	*Price per 100 lbs.*	*Ground lbs.*	*Price per 100 lbs.*
Corn	1	56	$0.90	$1.61	49	$1.84
Wheat	1	60	0.97	1.62	52.5	1.85
Barley	1	48	0.70	1.46	42	1.66
Rye	1	56	0.80	1.44	49	1.63
Oats	1	32	0.46	1.44	28	1.64

At the price per bushel shown above in the third column, when coarsely ground for a toll of one-eighth, the cost per 100 pounds of feed is shown in the right hand column.

When corn is $0.90 per bushel, the other grains may be substituted at the prices shown in the right hand column for the corn meal in Slop Mixtures Numbers 2, 3 and 4 only.

Ground rye should never constitute more than one-third of the entire ration of fattening hogs, and ground oats not over one-sixth.

When the yield per acre and the usual comparative prices are considered, it is easily seen that corn is the most economical feed for market hogs and barley second. As a hog feed ground barley is about 90 percent as efficient as whole corn, and ground rye in limited quantity is about as efficient as barley.

Corn is improved only slightly if at all as a feed for hogs by grinding and at $0.90 per bushel costs as formerly shown $1.61 per 100 pounds.

With the possible exception of wheat, corn when properly supplemented is the most efficient feed for market hogs, and a self-feeder makes the maximum use of corn convenient.

When a self-feeder is used no grinding of corn is necessary. Therefore, where small grains, which should be ground, are used in a self-feeder and the grinding is done for a toll of one-eighth, when corn is $0.90 per bushel, barley would be worth $0.63 per bushel; wheat $0.85; rye $0.74; oats $0.42 in limited quantities.

When grain prices are normal instead of making slop mixtures the cost of production can be materially lowered as compared with hand feeding by building a small self-feeder through which to feed either fish meal, tankage or a mixture consisting of fish meal and high-grade cottonseed meal in equal parts.

If this is done, corn on the ear should be kept constantly before the hogs.

This is imperative because corn is much cheaper than the supplemental feeds, and also if, owing to the absence of corn, the pigs are compelled to eat too much cottonseed meal, it may prove injurious or even fatal to them. The supplement should be constantly before them.

SCORE CARD

Pigs must have been fed for at least 90 days

Greatest average daily gain per pig during entire period	25	points
Greatest amount of profit per pig at basic feed prices	10	"
Promptness in making periodical reports	15	"
Completeness of records	25	"
Absence of unusual results in report	20	"
Narrative report	5	"
Total	100	points

IN COMPARING RESULTS THE FOLLOWING PRICES WILL BE USED, AND GAINS WILL BE CREDITED AT $10.00 PER 100 POUNDS LIVE WEIGHT, MINUS ANY DOCKAGE:

Basic Prices of Feeds: Corn, per bushel $0.90; corn meal per bushel of 48 pounds $0.90; per 100 pounds $1.88; Red Dog per 100 pounds $2.25; wheat shorts per 100 pounds $1.75; cottonseed meal per 100 pounds $2.00; ground barley, per bushel of 42 pounds $0.75; per 100 pounds $1.75; ground rye, per bushel of 48 pounds $0.80; per 100 pounds $1.75; ground wheat per bushel of 55.5 pounds $1.00; per 100 pounds $1.90.

MINERAL MIXTURE

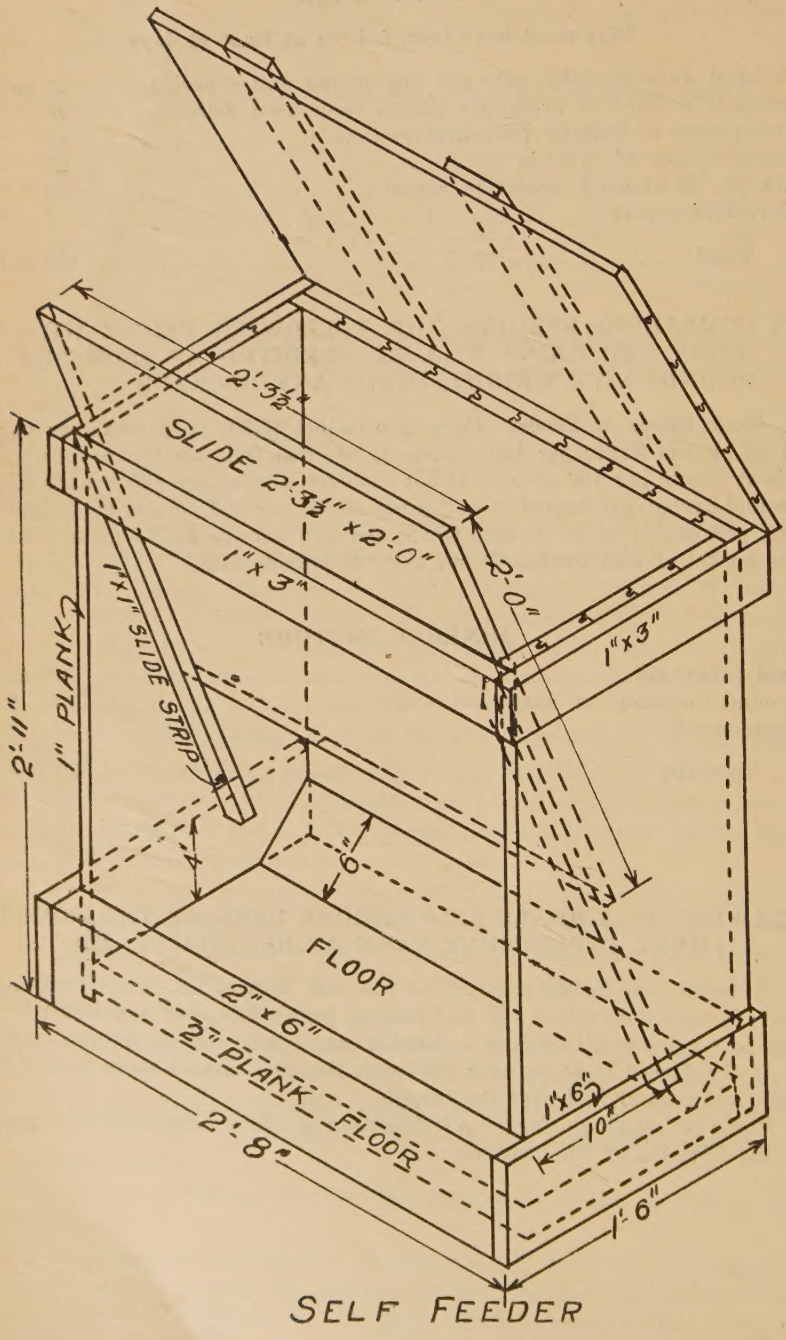
Acid phosphate	10	pounds
Ground limestone or hardwood ashes	10	"
Common salt	2	"
To make	22	pounds

DRAWING OF A SMALL SELF-FEEDER USED AT THE GOVERNMENT EXPERIMENT FARM AT BELTSVILLE, MD.

A small self-feeder, similar to the one illustrated on the following page, is very convenient for self-feeding pigs while they are small, or it may be used for self-feeding a supplement to corn fed on the ear.

If the feeder is to be used outdoors, the roof should slant toward the front and extend well over the trough.

Plans for making a larger self-feeder or a colony house will be supplied by the Division of Publications.


2'-3½"
SLIDE 2'-3½" x 2'-0"
2'-0"
1" x 3"
1" x 3"
1" x 1" SLIDE STRIP
2'-11"
1" PLANK
FLOOR
2" x 6"
2" PLANK FLOOR
2'-8"
1" x 6"
10"
1'-6"
SELF FEEDER

THE CLUB PLEDGE

I pledge:

My head to clearer thinking,

My heart to greater loyalty,

My hands to larger service; and

My health to better living, for

My club, my community and my country.

THE CLUB MOTTO:

"To Make the Best Better."